

## ABSTRACT OF THE DISCLOSURE

Encryption is executed with respect to an encryption target unit based on an encryption ratio with maintaining the same data length both prior to and subsequent to the encryption process. In Pattern 1, one third from the encryption target unit is encrypted, while two thirds (the rest) of the encryption target unit are not encrypted. In Pattern 2, three sub-patterns P1, P2, P3 that have different encryption ratios are applied. The sub-patterns P1, P2, P3 have the encryption ratios of 50 %, 25 %, and 75 %, respectively. In Pattern 3, three sub-patterns P11, P12, P13 that have different encryption starting points in addition to the different encryption ratios are applied. The sub-patterns P11, P12, P13 encrypt based on encryption ratios of 50 %, 25 %, and 75 % from 25 %, 50 %, and 0 % subsequent to the beginning of the unit.